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tension in each of the strings.

REMARKS

In the Official Action dated October 29, 1997, the Examiner rejected independent claim 7 under 35 U.S.C. §112 and 35 U.S.C. §102. In addition, due to a typographical error rendering claim 8 dependent of claim 9 and claim 9 dependent on claim 8, the Examiner did not exam claims 8-12 on the merits. In light of the amendments to the claims and the discussion below, Applicant requests the Examiner to reconsider her rejection of claims 7-12 and favorable consider newly presented claims 23-32.

§112 REJECTION

The Examiner rejected claim 7 under 35 U.S.C. §112 as containing subject matter not described in the specification. The rejection centered around Applicant's recitation of the manner in which the first and second ends of counter springs are connected. Without addressing the propriety of the rejection, Applicant has detected the recitation of how the ends of the springs are connected. Accordingly, Applicant believes that the §112 rejection is no longer appropriate.

The Examiner also objected to claims 8-12 as being in improper form because claim 8 depends on claim 9 and claim 9 depends on claim, and claims 10-12 depend from claim 9. Claim 8 has been amended so that claim 8 is dependent on claim 7, thereby rectifying the claimed dependency. Accordingly, Applicant believes that claims 8-12 are now in proper form.

§102 REJECTION

The Examiner rejected claim 7 as anticipated by United States Patent No. 5,419,227 to Lavineway. Lavineway discloses a tremolo having a pair of pivotable string support plates 25, 26 that pivot either together or separate from one another to produce a tremolo effect. Col. 5, lines 31-35. A pair of flanges or levers 40, 41 are connected to the pivotable plates 25, 26. The levers 40, 41 project downwardly into a cavity 13 in the body of the instrument. A pair of coil springs 47, 48 are attached to levers 40, 41 at one end and are fixed at the other end to the wall of the cavity 13. Each of the springs 47, 48 serve to counteract the tension of the instrument strings engaged with plates 25, 26. Col.

6, lines 27-33. In Figure 3, spring 47 is shown detached from the wall of the cavity 13.

Referring to Figure 3 and element numbers 35 et al., the Examiner contends that Lavineway discloses an attachment means that includes a global tuning means. However, element 35 is a component of a tremolo return means, and in no way operates as a tuner and does not interact with the coil springs 47, 48, which counteract the tension of the instrument strings. Col. 5, lines 45-68. The tremolo return means comprises a pair of guide tubes 33 in which a pair of pistons 38 are reciprocally mounted. Compression springs 37 bias the pistons 38 outwardly from the open end of the tubes 33. The adjustment screw 35 cited by the Examiner adjusts the tremolo return means. It does not effect the tuning of the instrument.

The tremolo return means operate as follows. When plates 25 and 26 pivot downwardly, the levers 40-41 engage pistons 38 forcing the pistons into their respective tubes 33 against the bias of springs 37. When released, the springs urge the levers 40, 41 and the connected plates 25, 26 back into the neutral position. In this way, tremolo return means simply operates to return the tremolo to its neutral position when the tremolo is activated. The tremolo return means does not affect the instrument tuning and does not counter balance the tension in the strings. In fact, the tremolo return means biases the tremolo in the same direction as the tension in the strings. Therefore, the tremolo return means actually increases the tendency of the tremolo to pivot in the direction of the spring tension when the tremolo is activated. It is opposite of the object of Applicant's device, which counter balances the tension in the springs.

The Lavineway device incorporates features that have precisely the type of shortcomings of Applicant's invention is designed to overcome. Specifically, Lavineway teaches a tremolo having a pair of coil springs 47, 48 connected to the tremolo to counteract the tension of the instrument strings, which tend to rotate the tremolo about the tremolo axis. See col. 6, lines 27-33. The biasing force of springs 47, 48 is fixed, therefore, if the environmental conditions cause the instruments to be out of tune, each of the individual strings must be separately retuned.

In contrast, Applicant's device includes a mechanism for tuning all of these strings at one time. Specifically, as recited in claim 7, Applicant's invention includes means for globally tuning the fulcrum tremolo. The specification clearly recites that the global tuners have the capacity to adjust the equilibrium point between the tension of the counter

springs and the tension of the strings to compensate for changes in the tension on the strings or the counter springs. As noted previously, the Lavineway device does not include any mechanism that allows adjustment of the equilibrium point between the tension of the counter springs and the tension of the strings. As with other prior art devices, Lavineway's counter springs 47, 48 are not adjustable. Accordingly, Lavineway does not disclose global tuning means as recited in claim 7, so that claim 7 is patentable over Lavineway.

Similarly, newly presented claim 23 includes a biasing element connected to the body wherein the biasing force of the biasing element tends to pivot the base in a second direction against the tendency of the base to pivot in a first direction in response to the tension in the strings. Claim 23 also recites an adjustment mechanism disposed between the biasing element and the base, operable to adjust the biasing force of the biasing element. Lavineway does not disclose such an adjustment mechanism for adjusting the biasing element. Instead, Lavineway discloses a pair of counter balance springs 47, 48 that are not adjustable.


The newly presented claim 27 includes a counter balance producing a force in a second direction to counter balance the string tension force to establish an equilibrium point of rotation of the base. Claim 27 also includes an adjustment mechanism operable to adjust the equilibrium point of rotation of the base. Again, Lavineway does not disclose any such adjustment mechanism.

Finally, newly presented claim 32 includes a tuning element connected with the base operable to simultaneously vary the tension in each of the strings. As discussed previously, Lavineway does not disclose any such tuning element. Instead, the Lavineway device can only be retuned by separately tuning each individual string.

In light of the foregoing, claim 7-12 and newly presented claims 23-32 are patentably distinct from the Lavineway patent. Therefore, Applicant respectfully requests that the Examiner reconsider

her rejection of claim 7-12 and favorably consider newly presented claims 23-32.

Respectfully submitted,



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